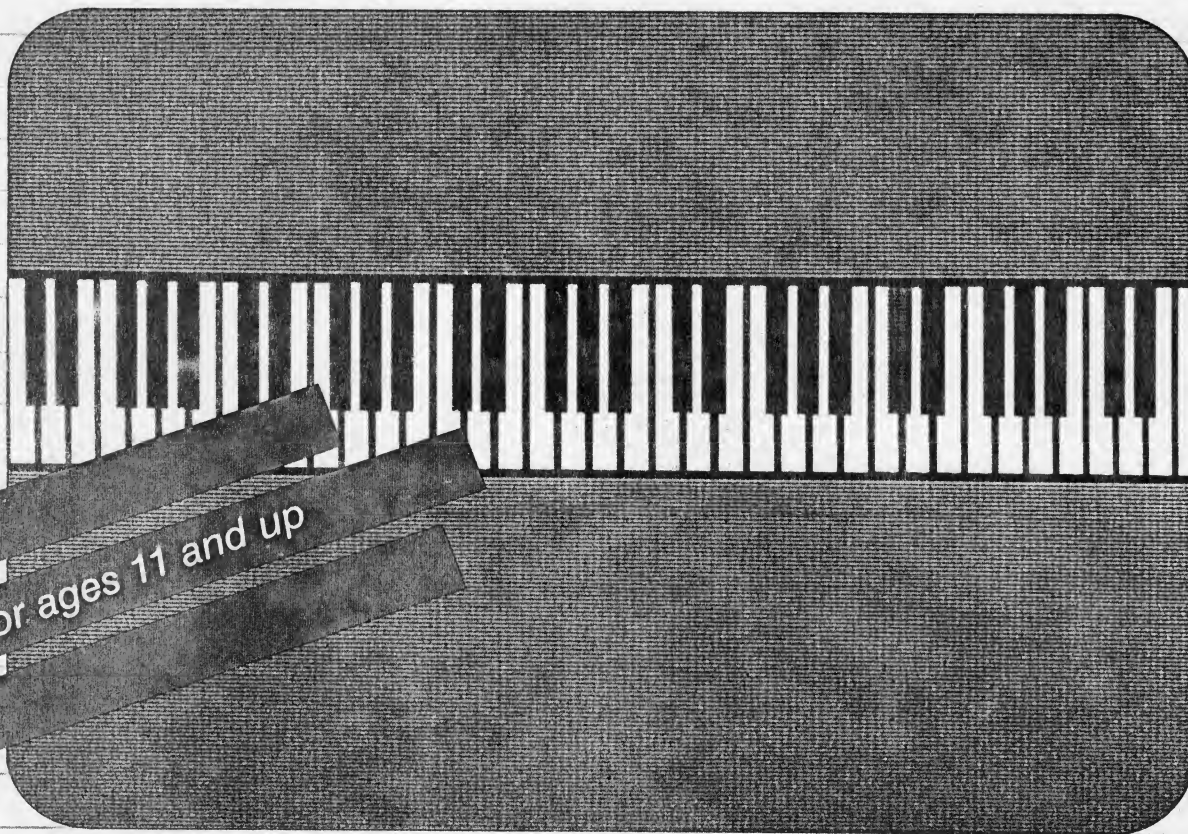


ADVANCED MUSICSYSTEM

PERSONAL DEVELOPMENT

A comprehensive music composition tool



CONSUMER-WRITTEN PROGRAMS FOR

ATARI[®]

HOME COMPUTERS

APX

ATARI Program Exchange

ADVANCED MUSICSYSTEM

by
Lee Actor

Program and Manual Contents © 1982 Lee Actor

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Introduction

Overview

The ADVANCED MUSICSYSTEM is a set of programs that take full advantage of the ATARI Home Computer System's sound-producing hardware. It's aimed at, though not limited to, those familiar with music notation and basic musical terms.

The program lets you enter musical notes from the computer keyboard. You specify octave, dynamic level, meter, key, and tempo. A special feature automatically duplicates recurring note patterns. If desired, you can define the tempo as a metronome marking over a wide range of values. ADVANCED MUSICSYSTEM has special commands to aid in using different degrees of musical articulation. Every time you enter a note, the program reproduces it through the television speaker and displays it on the screen, where you can modify it if necessary. The program plays as many as four independent voices in a 5 1/2 octave range.

With ADVANCED MUSICSYSTEM you can save music on a diskette and merge files to create very large files. Built-in synchronization lets you play at least eight simultaneous voices using an external tape recorder. Entire diskettes of music files play automatically by using the auto-play program.

ADVANCED MUSICSYSTEM plays very complex rhythms and extremely rapid tempos (more than 2400 notes per second). By using the ATARI Paddle Controllers you can adjust the tempo while listening to a piece of music. Five demonstration pieces are included with the program.

Required accessories

- ATARI BASIC Language Cartridge
- 32K RAM
- ATARI 810 Disk Drive
- Additional DOS II-formatted diskettes for storing music

Optional accessories

- Stereo cable
- A set of ATARI Paddle Controllers

Contacting the author

Users wishing to contact the author about ADVANCED MUSICSYSTEM may write or call him at:

3345 San Marino Avenue
San Jose, CA 95127

Getting started

Loading ADVANCED MUSICSYSTEM into computer memory

1. Insert the ATARI BASIC Language Cartridge in the cartridge slot of your computer.
2. Have your computer turned OFF.
3. Turn on your disk drive.
4. When the BUSY light goes out, open the disk drive door and insert the ADVANCED MUSICSYSTEM diskette with the label in the lower right-hand corner nearest to you. (Use disk drive one if you have more than one drive.)
5. Turn on your computer and your TV set. The program will load into computer memory and start automatically.

The first display screen

The following messages display as the program loads into memory:

Loading
ADVANCED
MUSICSYSTEM

and:

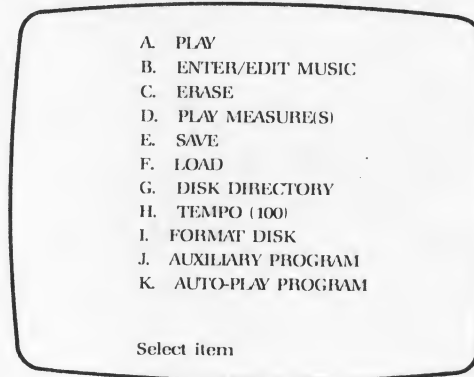
One moment, please

Then the main menu displays the eleven primary options available in the ADVANCED MUSICSYSTEM. Each item is preceded by a single letter.

Using Advanced Musicsystem

Introduction

The main menu looks like this:



A. PLAY
B. ENTER/EDIT MUSIC
C. ERASE
D. PLAY MEASURE(S)
E. SAVE
F. LOAD
G. DISK DIRECTORY
H. TEMPO (100)
I. FORMAT DISK
J. AUXILIARY PROGRAM
K. AUTO-PLAY PROGRAM

Select item

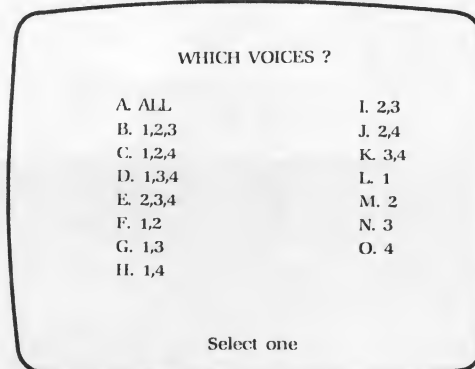
Figure 1 Main Menu

The menu is accessible from any section of the program. To select an item from the menu, type the corresponding letter. Throughout the program you enter information one of two ways: single characters only (e.g., menu selections and certain prompts), and one or more characters followed by pressing the RETURN key. Your typed characters appear in a solid box after you enter information and press the RETURN key. None of the usual editing keys may be used except DELETE BACK S.

ADVANCED MUSICSYSTEM provides extensive protection against errors. Potentially destructive keys like the BREAK, CAPS LOWER, and the ATARI inverse video keys have been disabled. You can't get "stuck" in a section of program. The usual escape is to press the RETURN key. With all error messages you hear a bell and see a clear indication of what's wrong. Pressing the SYSTEM RESET key causes the loss of all data and the program restarts.

Option A - Play

Use this option to listen to a piece that is in memory. The following menu appears asking you to select a combination of voices:



WHICH VOICES ?

A. ALL	I. 2,3
B. 1,2,3	J. 2,4
C. 1,2,4	K. 3,4
D. 1,3,4	L. 1
E. 2,3,4	M. 2
F. 1,2	N. 3
G. 1,3	O. 4
H. 1,4	

Select one

Figure 2 Option A submenu

Press the corresponding letters to make your choice. The selected voices play, stopping when the lowest-numbered voice finishes. It's good practice to make all voices the same length by filling them with the correct number of rests at the end. If you have voices of varying length, the program will blindly go on interpreting memory. This memory could either be the next voice or nonsense. You'll have the correct effect if one or more voices is completely empty.

While a piece plays, a piano keyboard appears on the screen. The keys you're hearing turn four different colors, representing each voice that's playing.

Varying the tempo. You can vary the tempo using a pair of ATARI Paddle Controllers. Plug the controllers into the first (leftmost) controller jack at the front of your console. Turn the paddles clockwise to speed up the tempo and counterclockwise to slow it down and then press the trigger buttons on the controllers. The right Paddle Controller handles large increments of speed. The left one controls fine increments.

To interrupt the playing of a piece, press the START, SELECT, or OPTION key and you'll return to the main menu.

Option B - Enter/Edit Music

At first the Enter/Edit option may seem complicated. With a little practice, however, the logic will become clear.

If you select option B and already have some music in memory, the prompt

Voice #? (1-4)

displays. After responding, you'll automatically be in the measure after the last measure of the already entered voice. If memory is clear, you'll be in the first measure of voice one. The display for the Enter/Edit Music option looks like this:

The screenshot shows a text-based interface for entering music. At the top, it displays 'VOICE 1' and 'MEASURE 1' with an arrow pointing to the left. To the right, a list of parameters is shown: 'BEATS=0', 'METER=4/4', 'TEMPO=100', 'SCALE ON', 'KEY=0#', 'OCT=4', 'DUR=Q', 'DYN=mf', and 'MEM=3401'. At the bottom, there is a prompt 'Note [Oct][Dur][Tie]][/Dot][/Dyn]?' followed by a rectangular input box.

Figure 3 Option B display

The display for Enter/Edit Music shows

- (1) current voice and measure (e.g., VOICE 1 and MEASURE 1)
- (2) the number of beats in the present measure (e.g., BEATS=0)
- (3) the current meter and tempo (e.g., METER=4/4 and TEMPO=100)
- (4) the SCALE option status (e.g., SCALE ON)
- (5) the key signature in sharps and flats (e.g., KEY=0#)
- (6) the current default values for octave number, duration, and dynamic (e.g., Oct=4, Dur=Q, and Dyn=mf)
- (7) the amount of memory left for entering notes (e.g., MEM=3401) and

- (8) a prompt at the bottom of the screen to remind you of the entry format (e.g., Note [Oct][Dur[Tie]][/Dot][Dyn]?)

The center of the screen displays notes and contains a movable cursor. You use commands to perform all the activities.

ADVANCED MUSICSYSTEM contains a series of operations within the Enter/Edit Music option. These operations are

- Entering notes
- Editing notes
- Scale option
- Go to measure
- Insert measure
- Change meter
- Change key signature
- Repeat notes
- Play current measure
- Quit

These options are described below.

Entering Notes

Each time you enter a note, it sounds through the television speaker and displays on the screen. The cursor moves to the next position automatically. You can move the cursor by pressing the CTRL key and the up arrow or down arrow key. When the cursor reaches the bottom of the screen, it repositions itself to begin a second column of notes. When you reach the bottom of the second column, the cursor "wraps around" to the starting point. The entered notes stay in memory giving you room to display new notes.

The format for entering notes consists of

Note [Oct][Dur[Tie]][/Dot][Dyn]

All items in brackets are optional. If you don't specify values for Oct, Dur, or /Dyn, the program assigns the default values displayed on the right side of the screen. The format for a "rest" is R[Dur]. As you key in information, it displays in the window below the commands.

Note

Type the name of a note using the letters A to G, optionally followed by an accidental (# - sharp, F - flat, or N - natural). You don't have to enter accidentals if they're in the key signature. If you do use an accidental, it carries through until the end of the measure, or until you specify a new accidental (e.g., A# remains until you enter AN). You can't directly enter double sharps or flats. However, you can easily use equivalent pitches. For example, Dbb (double flat) is written CN or B#.

Oct

Indicate the octave with a number between 1 and 6. "Oct" begins with the note C and ends with B. C4 is middle C. The lowest note is C1 (three octaves below middle C, the lowest C on the piano). The highest note is F6 (two and one-half octaves above middle